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Department of Energy

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JAN 06 1998

DOE-0310-98

Mr. Paul Pardi, Hazardous Waste Group Leader
Ohio Environmental Protection Agency
401 East 5th Street
Dayton, Ohio 45402-2911

Dear Mr. Pardi:

**SUBMITTAL OF CROSS-REFERENCE INDEX PURSUANT TO THE DIRECTOR'S FINAL
FINDINGS AND ORDERS FILED JUNE 6, 1996**

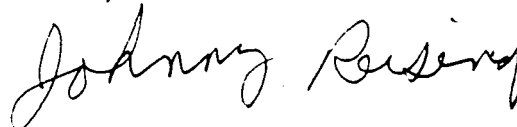
Reference: Letter and Director's Final Findings and Orders, Crepeau, OEPA to Hamric,
DOE and Bradburne, FDF, dated June 6, 1996.

In accordance with Section V, Order Number 2 of the referenced Director's Final Findings and Orders (DF&O), enclosed is a cross-reference index of Hazardous Waste Management Unit (HWMU) closure components and Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) documents for those HWMUs identified in Attachment A of the DF&O. The index links specific components of Ohio Environmental Protection Agency's (OEPA), "Interim Final Closure Plan Review Guidance for RCRA Facilities," related to substantive closure requirements with the appropriate CERCLA document that addresses those components. The list is cumulative and provides page numbers and sections for those CERCLA documents that have already been submitted.

The submittal of this cross-reference index meets the requirement in Section V to provide this document following the submittal of a CERCLA document identified in the cross-reference index. The Final Plant 1 Complex Phase 1 Project Completion Report was submitted to the OEPA and U.S. Environmental Protection Agency (U.S. EPA) on December 23, 1997. The specific reference to this document in the cross-reference table has been highlighted.

If you have any questions regarding this matter, please contact Robert Danner at (513) 648-3167.

Sincerely,



Johnny W. Reising
Associate Director
Environmental Management

FEMP:Danner

Enclosure: As Stated

cc w/enc:

D. Carr, FDF/52-2
R. Holmes, FDF/3
M. Strimbu, FDF/52-8
T. Walsh, FDF/65-2
AR Coordinator, FDF/78

cc w/o enc:

EDC, FDF/52-7

CROSS-REFERENCE INDEX FOR FEMP HWMU CLOSURE PLAN COMPONENTS UNDER CERCLA

CLOSURE PLAN COMPONENT	CERCLA DOCUMENT	CROSS REFERENCE INDEX
1. Description/Detailed Drawing of Waste Management Unit(s) to be Closed (Closure Guidance Item 3.2 and 3.4)	OU1 FINAL Remedial Investigation Report, August 1994	Waste Pit 4 (27): Description, pp. 1-23 to 1-24; History, pp. 1-35 to 1-36; Drawings, pp. 1-83, 1-88 Waste Pit 5 (42): Description, pp. 1-24 to 1-27; History, pp. 1-36 to 1-37; Drawings, pp. 1-83, 1-89
	OU3 FINAL Integrated Remedial Design/Remedial Action Work Plan, May 1997	HWMU Component Number and Associated D&D Complex: Table 3-10, pp. 3-71 D&D Complex Locations: Figure 2-2, pp. 2-17
	OU3 Implementation Plans for Above-Grade Decontamination and Dismantlement FINAL Plant 1 Complex - Phase I Implementation Plan, March 1996 FINAL Thorium/Plant 9 Complex Implementation Plan, August 1997	Drawing of HWMU: To be Submitted for Each D&D Complex Plant 1 Storage Bldg. - Bldg. 67 (25): Figure D-11 Plant 9 Warehouse - Bldg. 81 (35): Figure D-10, D-11
	OU5 FINAL Remedial Investigation Report, March 1995	General Location Map of HWMUs to be Closed Under CERCLA: Figure 4-112 Size and Dimensions of HWMUs: Table 1-12 FEMP Topographic Map: Figure 3-1 General HWMU Information and Locations Within OU5 Areas, Appendix D: Plant 1 Storage Pad (20): Plant 1 Area, Section D.2.1, pp. D.2-2 UNH Tanks (46-50), NAR System (10), Trane Incinerator (28): Plant 2/3 Area, Section D.2.2, pp. D.2-19 Plant 8 East and West Drum Storage Pads (17, 18), Box Furnace (14): Plant 8 Area, Section D.2.5, pp. D.2-33 Sludge Drying Beds (41): Sewage Treatment Plant Area, Section D.2.7, pp. D.2-41 Abandoned Sump West of Pilot Plant (22): Pilot Plant Area, Section D.2.8, pp. D.2-45 Tank Farm Sump (11): Tank Farm and Boiler House Area, Section D.2.13, pp. D.2-69 Fire Training Facility (1): Fire Training Area, Section D.2.18, pp. D.2-86
2. List of Hazardous Waste(s) Managed in Unit(s) (Closure Guidance Item 3.5)	OU1 FINAL Remedial Investigation Report, August 1994	Waste Managed in Unit: Waste Pit 4 (27): pp. 4-60 to 4-70, pp. 1-35 to 1-36 Waste Pit 5 (42): pp. 4-70 to 4-77, pp. 1-36 to 1-37
	OU3 FINAL Remedial Investigation/Feasibility Study Report	Waste Managed in HWMU: Table K-1

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CLOSURE PLAN COMPONENT ¹	CERCLA DOCUMENT	CROSS REFERENCE INDEX
2. List of Hazardous Waste(s) Managed in Unit(s) (Closure Guidance Item 3.5) - Continued	OU3 Implementation Plans for Above-Grade Decontamination and Dismantlement FINAL Plant 1 Complex - Phase I Implementation Plan, March 1996 FINAL Thorium/Plant 9 Complex Implementation Plan, August 1997	Waste Managed in HWMU: - To be Submitted for Each D&D Complex Plant 1 Storage Bldg. - Bldg. 67 (25): Section 3.7, p. 42 Plant 9 Warehouse - Bldg. 81 (35) Section 3.13, pp. 39 to 40
	OU5 FINAL Remedial Investigation Report, March 1995	HWMUs with Potential Soil Contamination: Tables 4-68 and 4-69
	OU5 FINAL Feasibility Study Report, June 1995	HWMU Constituents of Concern (COCs) for Soil: Tables 4-4, 4-5, 4-6
	OU5 DRAFT Sitewide Excavation Plan, July 1997	HWMU COCs: Table 2-1
	OU5 Integrated Remedial Design Packages for Individual Remediation Areas DRAFT Area 1 Phase II Implementation Plan, November 1997	HWMU COCs: To be Submitted Sludge Drying Beds (41): Section 2.1.2, Sludge Drying Beds, p. 2-3
3. Removal of Waste and Contaminated Media (Closure Guidance Item 3.6)	OU1 Remedial Design Documents Package	Removal of Waste: Waste Pit 4 (27), Waste Pit 5 (42): To be Submitted
	OU3 FINAL Integrated Remedial Design/Remedial Action Work Plan, May 1997	General Methods for Removing and Storing Waste: HWMU Decontamination, Section 3.2.3, p. 3-13; Materials Management, Section 3.3, pp. 3-30 to 3-63; HWMU Remediation (use of Safe Shutdown, D&D of complexes), Section 3.5.3, pp. 3-69 to 3-73
	OU3 Implementation Plans for Above-Grade Decontamination and Dismantlement FINAL Plant 1 Complex - Phase I Implementation Plan, March 1996 FINAL Thorium/Plant 9 Complex Implementation Plan, August 1997	Removing Waste from HWMU Storage, Treatment, and Disposition of Waste: To be Submitted for Each D&D Complex Plant 1 Storage Bldg. - Bldg. 67 (25): Section 3.7, pp. 42 Plant 9 Warehouse - Bldg. 81 (35): Section 3.13, pp. 39 to 40

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CLOSURE PLAN COMPONENT ¹	CERCLA DOCUMENT	CROSS REFERENCE INDEX
3. Removal of Waste and Contaminated Media (Closure Guidance Item 3.6) - Continued	OU5 DRAFT Sitewide Excavation Plan, July 1997	Excavation, Loading, Staging, Storage, Treatment and/or Disposition of Impacted Material: Section 2.0, Remediation Issues and General Strategies; Section 3.0, General Implementation Approach; Section 4.0, Location Specific Excavation Approaches; Appendix B, Sitewide Sequencing Plan; Appendix F.3 to F.5, Implementation of Construction; Appendix I, Sitewide Excavation of Contamination by Constituent
	OU5 Integrated Remedial Design Packages for Individual Remediation Areas DRAFT Area 1 Phase II Implementation Plan, November 1997	Area/Phase-Specific Excavation, Loading, Staging, Storage, Treatment and/or Disposition of Impacted Material: To be Submitted Sludge Drying Beds (41) — Sector 3: Removal of Waste: Section 3.3.4.2, Excavation of Above WAC Material in the Sludge Drying Beds, pp. 3-32 to 3-33; and Table 3-2, Waste Stream Disposition Removal of Impacted Soil Material: Section 3.3.4.3, Excavation of Below WAC/Above FRL Material, pp. 3-33 to 3-35; and Table 3-2, Waste Streams Disposition
4. Schedule for Closure (Closure Guidance Item 3.7)	OU1 FINAL Remedial Action Work Plan, January 1997	Schedule Summary for Remedial Design/Remedial Action Packages; Closure of Waste Pit 4 (27), Waste Pit 5 (42): Table 2-1, pp. 2-16
	OU1 Remedial Design Documents Package	Schedules for Closure of Waste Pit 4 (27), Waste Pit 5 (42): To be Submitted
	OU1 Remedial Action Documents Package	Schedules for Closure of Waste Pit 4 (27), Waste Pit 5 (42): To be Submitted
	OU3 FINAL Integrated Remedial Design/Remedial Action Work Plan, May 1997	Accelerated Schedule for Conducting Safe Shutdown Activities at D&D Complexes: Figure 6-1, pp. 6-3 Schedule for Submitting D&D Packages: Table 6-1, p. 6-7
	OU3 Implementation Plans for Above-Grade Decontamination and Dismantlement FINAL Plant 1 Complex - Phase I Implementation Plan, March 1996 FINAL Thorium/Plant 9 Complex Implementation Plan, August 1997	Schedule for Removing & Decontaminating Above-Grade Unit Structures and Equipment: To be Submitted for Each D&D Complex Plant 1 Storage Bldg. - Bldg. 67 (25): Figure 4-1, p. 48 Plant 9 Warehouse - Bldg. 81 (35) Figure 4-1, p. 43
	OU5 FINAL Remedial Design Work Plan, August 1996	Schedule for Submitting Remedial Design Documents for Soil: Table 4-1, p. 4-6

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CLOSURE PLAN COMPONENT ¹	CERCLA DOCUMENT	CROSS REFERENCE INDEX
4. Schedule for Closure (Closure Guidance Item 3.7) - Continued	OU5 DRAFT Sitewide Excavation Plan, July 1997	Schedule for Submitting Remedial Design Documents: Table 1-5; Table 7-2
	OU5 Integrated Remedial Design Packages for Individual Remediation Areas DRAFT Area 1 Phase II Implementation Plan, November 1997	Area/Project-Specific Schedules: To be Submitted Sludge Drying Beds (41) - Sector 3: Section 6.10, Schedule, pp. 6-20 to 6-21; and Figure 6-5, Area 1 Phase II Sector 3 Schedule
5. Health and Safety Issues (Closure Guidance Item 3.9)	OU1 Remedial Action Documents Package	Health and Safety Plan: To be Submitted
	OU3 FINAL Integrated Remedial Design/Remedial Action Work Plan, May 1997	Health and Safety Plan: Appendix E
	OU5 DRAFT Sitewide Excavation Plan, July 1997	Health and Safety Plan: Section 6.0, Project Health and Safety, pp.6-1 to 6-13; Table 6-1, Occupational Monitoring and Action Levels
	OU5 Integrated Remedial Design Packages for Individual Remediation Areas DRAFT Area 1 Phase II Implementation Plan, November 1997	Area/Phase-Specific Health and Safety Requirements: To be Submitted Section 5.0, Project Specific Health and Safety, pp. 5-1 to 5-2
6. Decontamination Efforts (Closure Guidance Item 3.10)	OU1 Remedial Design Documents Package	Decontamination of Excavation Equipment: To be Submitted
	OU1 Remedial Action Documents Package	Decontamination of Processing Equipment To be Submitted
	OU3 FINAL Integrated Remedial Design/Remedial Action Work Plan, May 1997	HWMU Decontamination: Section 3.2.3, pp. 3-13 HWMU Remediation: Section 3.5.3, pp. 3-69 to 3-73 (use of Safe Shutdown, D&D of complexes)
	OU3 Implementation Plans for Above-Grade Decontamination and Dismantlement FINAL Plant 1 Complex - Phase I Implementation Plan, March 1996 FINAL Thorium/Plant 9 Complex Implementation Plan.	Decontamination of Above-Grade Unit Structures and Equipment: To be Submitted for Each D&D Complex Plant 1 Storage Bldg. - Bldg. 67 (25): HWMU Decontamination: Section 3.7, pp. 42 to 45 Materials Management: Table 2-4, p. 12 Plant 9 Warehouse - Bldg. 81 (35): HWMU Decontamination: Section 3.13, pp. 39 to 40

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CLOSURE PLAN COMPONENT ¹	CERCLA DOCUMENT	CROSS REFERENCE INDEX
6. Decontamination Efforts (Closure Guidance Item 3.10) - Continued	OU5 DRAFT Sitewide Excavation Plan, July 1997	Decontamination of Excavation Equipment: Section F.2.3 Decontamination Facilities: p. F-8
	OU5 Integrated Remedial Design Packages for Individual Remediation Areas DRAFT Area I Phase II Implementation Plan, November 1997	Area/Phase-Specific Requirements for Decontamination of Excavation Equipment: To be Submitted Sludge Drying Beds (41): Equipment Decontamination: Section 3.3.2.9, Installation of Equipment Decontamination Facility, p. 3-27; and Section 3.3.4.2, Excavation of Above WAC Material in the Sludge Drying Beds, pp. 3-32 to 3-33 Remediation-Generated Water Management: Section 3.4.4, Wastewater Management, pp. 3-43 to 3-45; and Table 3-2, Waste Stream Disposition
7. Remediation Standards for Soils and Groundwater ² (Closure Guidance Items 3.11, 3.11.1, 3.11.2, and 3.12)	OU1 FINAL Record of Decision, January 1995	Waste Pit (27, 42) Area: pp. 9-1 to 9-11 Tables B-5 to B-16
	OU1 OUI Remedial Design Pre-Final Design Package II, March 1996	Waste Pit (27, 42) Area: pp. A-3 to A-7
	OU5 FINAL Record of Decision, January 1996	Final Remediation Levels (FRLs) for Soil and Groundwater: Table 9-3, pp. 9-23 to 9-25 Table 9-4, pp. 9-26 to 9-27
	OU5 DRAFT Sitewide Excavation Plan, July 1997	Summary of Contaminant Levels; Table 1-4 Final Remediation Levels; Section 2.1.3, pp. 2-8 to 2-11 Benchmark Toxicity Values; Section 2.1.4, pp. 2-11 to 2-12 Primary and Secondary COCs and Biological Toxicity Value Constituents of Ecological Concern Assigned to Remediation Areas: Table 2-9
	OU5 Integrated Remedial Design Packages for Individual Remediation Areas DRAFT Area I Phase II Implementation Plan, November 1997	Area/Phase-Specific FRLs: To be Submitted Sludge Drying Beds (41): Section 3.3.7, HWMU Closure and Certification, p. 3-39
8. Sampling Plan and Analytical Procedures (Closure Guidance Item 3.13) - Includes Sampling to Define the Extent of Contamination and Sampling to Verify the Unit is Clean.	OU1 FINAL Remedial Investigation Report, August 1994	Procedures for Determining Nature and Extent of Contamination at Waste Pit Area: Waste Pit 4 (27), Waste Pit 5 (42): Chapter 2, pp. 2-1 to 2-161
	OU1 OUI Remedial Action Design Package	Procedures for Sampling and Analysis of Waste Pit Area; Certification of Waste Pit Area Cleanup: To be Submitted
	OU5 FINAL Remedial Investigation Report, March 1995	Procedures for Determining Nature and Extent of Soil Contamination: Chapter 2, pp. 2-1 to 2-83

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CLOSURE PLAN COMPONENT	CERCLA DOCUMENT	CROSS REFERENCE INDEX
8. Sampling Plan and Analytical Procedures (Closure Guidance Item 3.13) - Includes Sampling to Define the Extent of Contamination and Sampling to Verify the Unit is Clean - Continued	OU5 DRAFT Sitewide Excavation Plan, July 1997	Procedures for Certifying Attainment of Soil Cleanup: Section 1.4.2, pp. 1-26 to 1-28; Section 2.2.2, pp. 2-15; Section 3.4, pp. 3-23 to 3-30; Appendix G, Certification Design Rationale
	OU5 Integrated Remedial Design Packages (IRDPs) for Individual Remediation Areas DRAFT Area I Phase II Implementation Plan, November 1997	Area/Phase-Specific Procedures for Certifying FRL Attainment: To be Submitted Sludge Drying Beds (41): Section 3.3.7, HWMU Closure and Certification, p. 3-39
	OU5 Certification Design Letters for Individual Remediation Areas DRAFT Area I Phase II Certification Design Letter	Area/Phase-Specific Procedures for Certifying FRL Attainment: To be Submitted Sludge Drying Beds (41): To be Submitted
9. Description of Removal Efforts and Treatment Processes (Closure Guidance Item 3.14)	OU1 Remedial Design Documents Package	Removal and Handling of Waste Pit Waste: Waste Pit 4 (27), Waste Pit 5 (42): To be Submitted
	OU1 Remedial Action Documents Package	Processing of Waste Pit Waste: Waste Pit 4 (27), Waste Pit 5 (42): To be Submitted
	OU3 Implementation Plans for Above-Grade Decontamination and Dismantlement	Removal and Treatment of Waste in HWMU: To be Submitted for Each D&D Complex (where applicable)
	OU5 FINAL Feasibility Study Report, June 1995	Evaluation of Technologies and Process Options: Section 3.3, pp. 3-5 to 3-18
	OU5 DRAFT Sitewide Excavation Plan, July 1997	Excavation, Loading, Staging, Storage, Treatment, and/or Disposition of Impacted Material: Section 2.0, Remediation Issues and General Strategies; Section 3.0, General Implementation Approach; Section 4.0, Location Specific Excavation Approaches; Appendix B, Sitewide Sequencing Plan; Appendix F, Implementation of Construction; Appendix I, Sitewide Extent of Contamination
	OU5 Integrated Remedial Design Packages (IRDPs) for Individual Remediation Areas DRAFT Area I Phase II Implementation Plan, November 1997	Area/Phase-Specific Excavation, Loading, Staging, Storage, Treatment, and/or Disposition of Impacted Material: To be Submitted Sludge Drying Beds (41): Section 3.3.5.1, Material Not Meeting On-Site WAC; pp. 3-37 to 3-38; Section 3.4.3, Waste Stream Storage, Treatment and Disposal; pp. 3-41 to 3-43; Section 3.4.4, Wastewater Management, pp. 3-43 to 3-45; and Table 3-2, Waste Stream Disposition

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10. Landfill Closure Requirements - (if applicable) - (Closure Guidance Item 3.15)	OU1 FINAL Record of Decision, January 1995	ARARs: Relevant and Appropriate as some remedial alternatives may require closure to these standards Tables B-28 to B-29
	OU1 FINAL Remedial Design Work Plan, June 1995	Revised ARARs: Tables A-24 to A-25
	OU1 Remedial Design Documents Package	To be Submitted
	OU5 FINAL Record of Decision, January 1996	Not Applicable, if Remediation Levels for Soil and Groundwater are Sufficient for a Clean Hazardous Waste Management Unit Closure ² : ARARs: Table B-3, pp. B.3-19 to B.3-10
	OU5 DRAFT Sitewide Excavation Plan, July 1997	ARARs and TBCs: Table A-2 NOTE: This table presents a compilation of pertinent ARARs and TBCs from the RODs for Operable Units 2, 3, and 5
	OU5 Integrated Remedial Design Packages for Individual Remediation Areas DRAFT Area 1 Phase II Implementation Plan, November 1997	Area/Phase-Specific Landfill Closure Requirements: To be Submitted (if applicable) Sludge Drying Beds (41): Included within Appendix A, Design Criteria Package, Table A-2, pp. A-63 to A-67, but not anticipated to be applicable since HWMU to be clean (risk-based) closed by removal. (See entry 3 above)
11. Certification (Closure Guidance Item 3.16)	OU1 Remedial Action Report	Certification Sampling Results: To be Submitted
	OU3 Project Completion Reports FINAL Plant 1 Complex - Phase I Project Completion Report, December 1997	Summary of HWMU Remediation Activities/Statement of Conformance with Requirements and Performance Standards: To be Submitted for Each D&D Complex Plant 1 Storage Bldg. - Bldg. 67 (25): Section 2.1.3, pp. 7 to 8
	OU5 Certification Reports for Individual Remediation Areas DRAFT Area 1 Phase II Certification Report	Area/Phase-Specific Certification Reports: To be Submitted Sludge Drying Beds (41) - Sector 3: To be Submitted
	OU5 Remedial Action Report	Summary of Remedial Activities and Statement of Conformance with Requirements and Standards: To be Submitted

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CLOSURE PLAN COMPONENT ¹	CERCLA DOCUMENT	CROSS REFERENCE INDEX
12. Status of Facility (or Unit) After Closure (Closure Guidance Item 3.17)	OU1 FINAL Record of Decision, January 1995	Status of Waste Pits After OU1 Remedial Action: pp. 10-1 to 10-9
	OU3 FINAL Record of Decision for Interim Remedial Action, June 1994	Status of Production Area HWMUs After OU3 Remedial Action: Section 5.4, pp. 11
	OU5 FINAL Record of Decision, January 1996	Status of FEMP After Soil and Groundwater Remediation: Section 4.0, pp. 4-1 to 4-3
	OU5 DRAFT Sitewide Excavation Plan, July 1997	Certification Reports: Section 7.3, pp. 7-8 to 7-12
	OU5 Certification Reports for Individual Remediation Areas	Status of those HWMUs That Had Soil Contamination After Soil Remedial Action: To be Submitted

¹ Closure Guidance Items are from the Closure Plan Review Guidance for RCRA Facilities, Ohio EPA, Interim Final, September 1, 1993.

² The perched water contamination has many sources, only some of which are the HWMUs. Because of this, it is difficult or impossible to identify the degree to which a HWMU may have contributed to perched water contamination. Therefore, the nature and extent of contamination in the perched water, and the most appropriate remedial action method and objectives, are best achieved under the CERCLA process alone.

³ Ohio EPA has two options for clean closure where there are no more RCRA requirements (i.e., no post-closure requirements) for the existing HWMUs: (1) complete removal of waste and impacted environmental media, and (2) complete removal of waste and impacted environmental media to health-based standards (known at the FEMP as Final Remediation Levels, FRLs). Post closure requirements will, however, be applicable to the CERCLA on-property disposal cell as it will take some soil and debris contaminated with RCRA-hazardous waste [see Post Closure Care and Inspection Plan, On-Site Disposal Facility (20100-PL-010, Rev. 1, July 1997)].